REMARKS

This application has been carefully reviewed in light of the Office Action dated April 7, 2010. Claims 1, 7, 13 and 25 to 29 remain pending in the application, of which Claims 1, 7 and 13 are independent. Reconsideration and further examination are respectfully requested.

Claims 25 to 27 were objected to as allegedly being duplicates of Claims 1, 7 and 13, respectively. It is noted that the claims do indeed include differences that make then non-duplicative. Specifically, Claim 25 included the feature of one droplet output based on the first density component has a smaller size that one droplet output based on the second density component and this feature was not present in Claim 1. Nonetheless, Claims 25 to 27 have been amended so as to now be dependent from Claims 1, 7 and 13, respectively, with the foregoing feature being an additional feature claimed in Claims 25 to 27. Therefore, reconsideration and withdrawal of the objections are respectfully requested.

Claims 1, 7, 13 and 25 to 29 were rejected under 35 U.S.C. § 112, first paragraph. It is noted that the points raised in the Office Action were already attended to in the February 16, 2010 Supplemental Amendment, and therefore, the rejections are traversed. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Claims 13 and 27 were rejected under 35 U.S.C. § 101. Without conceding the correctness of the rejections, the claims have been amended based on the Patent Office's suggestion to include "non-transitory" in the claims. Therefore, reconsideration and withdrawal of the rejections are respectfully requested.

Claims 1, 7, 13 and 25 to 28 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,142,374 (Tajika) in view of U.S. Patent No. 6,614,556 (Hong) and U.S. Publication No. 2001/0019632 (Shibaki), and Claim 29 was rejected under § 103(a) over Tajika in view of Hong and Shibaki and further in view of U.S. Patent No. 6,328,404 (Fujimori). Reconsideration and withdrawal of the rejections are respectfully requested in light of the following comments.

The claims are directed to an image processing apparatus that executes an error diffusion process to color data having a plurality of density components including at least first and second density components. In the claims (Claim 1, for example), a first processing unit modulates at least one of a quantization threshold value and a quantization diffusion coefficient on the basis of the first density component, and executes the error diffusion process to the first density component by using at least one of the modulated quantization threshold value and the modulated quantization diffusion coefficient. On the other hand, a second processing unit executes the error diffusion process to the second density component by using a fixed quantization threshold value and a fixed quantization diffusion coefficient. Here, the error diffusion process executed by the second processing unit requires a lighter processing load than the error diffusion process executed by the first processing unit. To further define the claimed invention, the claims now include the features that a color reproduced by an image forming unit according to the first density component is similar to a color reproduced by the image forming unit according to the second density component, and a highest density reproducible by the image forming unit according to the first density component is lower than a highest density reproducible by the image forming unit according to the second density component. That is, the colors that are

similar to each other correspond to dark ink and light ink with respect to the same color, or large and small dots with respect to the same color, for example.

As discussed in the Related Background Art portion of the specification, the error diffusion method which modulates a threshold value is conventional, and causes the problems discussed at page 10, lines 9 to 24. The present claims provide a solution to those problems by providing the two processing units and by switching these units according to the density component being processed.

Thus, the applied art, alone or in any permissible combination, is not seen to disclose or to suggest processing the first density component using the first processing unit in the manner claimed (i.e., at least one of the modulated quantization threshold value process or the modulated diffusion coefficient process), and processing the second density component using the second processing unit in the manner as claimed (i.e., executing a fixed threshold value process and a fixed quantization diffusion coefficient process), where a color reproduced by an image forming unit according to the first density component is similar to a color reproduced by the image forming unit according to the second density component, and a highest density reproducible by the image forming unit according to the first density component is lower than a highest density reproducible by the image forming unit according to the second density component.

Tajika discloses applying different binarization methods to dark ink and light ink. Specifically, as depicted in Fig. 1, Tajika applies the bayer-type dither to the dark ink and the halftone-type dither to the light ink. As depicted in Fig. 4, Tajika applies the error diffusion method to dark ink and the density pattern method to light ink. Thus, while Tajika may apply different methods to dark and light ink, it does not apply a modulation

type error diffusion to either the dark or light ink. Indeed, the methods disclosed in Tajika are merely the same as the conventional methods disclosed on the Background portion of the specification. Thus, the problem that remains in Tajika is the same as those discussed in the Background portion of the specification.

Hong is merely seen to disclose a threshold modulator for modulating a quantization threshold value based on whether an output image value is a predetermine high level or low level. However, Hong is not seen to add anything that, when combined with Tajika, would have resulted in the features of Claims 1, 7 and 13.

Shibaki is merely seen to disclose a variable threshold method that quantizes input image data of a target pixel into image data having a second multivalue based on the variable thresholds. However, Shibaki is not seen to add anything that, when combined with Tajika and/or Hong, would have resulted in the features of Claims 1, 7 and 13. Specifically, no combination of the foregoing references is seen to result in the features of processing the first density component using the first processing unit in the manner claimed (i.e., at least one of the modulated quantization threshold value process or the modulated diffusion coefficient process), and processing the second density component using the second processing unit in the manner as claimed (i.e., executing a fixed threshold value process and a fixed quantization diffusion coefficient process), where a color reproduced by an image forming unit according to the first density component is similar to a color reproduced by the image forming unit according to the second density component, and a highest density reproducible by the image forming unit according to the first density component is lower than a highest density reproducible by the image forming unit according to the second density component.

In view of the foregoing amendments and remarks, independent Claims 1, 7 and 13, as well as the claims dependent therefrom, are believed to be allowable.

No other matters having been raised, the entire application is believe to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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